

IN THE CLAIMS

Please amend the claims as follows:

Claims 1-11 (Canceled).

Claim 12 (Currently Amended): A stride monitoring device, comprising:

a first shoe including at least a magnetic mass;

a second shoe including at least one magnetometer configured to measure ~~for measuring~~ a magnetic field produced by the magnetic mass in the first shoe and to output ~~for outputting~~ magnetic field signals based on the measured magnetic field produced by the magnetic mass in the first shoe, wherein said magnetic field signals can be processed to determine stride parameters, and ~~wherein~~

said second shoe further includes ~~comprises~~ at least one accelerometer configured to measure ~~for measuring~~ an acceleration and to output ~~for outputting~~ acceleration signals based on the measured acceleration, and wherein the accelerometer is further configured to output acceleration signals that acceleration signals outputted by said accelerometer enable determining instants of impact of said second shoe, and wherein the instants of impact are taken into account for calibrating in time a dynamic measurement of a distance between shoes.

Claim 13 (Original): A device according to claim 12, wherein each of the first and second shoes includes at least one magnetic mass, measurement means for making at least one physical measurement, and electronic means for processing the physical measurement, the measurement means including at least one accelerometer and at least one magnetometer capable of outputting signals that can be processed to determine the stride parameters.

Claim 14 (Original): A device according to claim 12, wherein the magnetic mass includes at least one permanent magnet.

Claim 15 (Previously Presented): A device according to claim 12, wherein the second shoe includes a plurality of accelerometers.

Claim 16 (Previously Presented): A device according to claim 12, wherein the second shoe includes a plurality of magnetometers.

Claim 17 (Previously Presented): A device according to claim 12, wherein the second shoe comprises said at least one accelerometer and electronic means for processing said magnetic field signals and said acceleration signals, wherein said electronic means comprises means for transmitting a signal output by the electronic means.

Claim 18 (Original): A device according to claim 17, further comprising portable means for receiving the signal transmitted by the transmission means and for displaying data representative of the signal.

Claim 19 (Currently Amended): A device according to claim 18, wherein the portable means comprises:

~~data reception~~ means for receiving data;

electronic data processing means for processing data, the electronic data processing means including a memory;

~~control input~~ means for controlling inputs; and

~~display~~ means for displaying.

Claim 20 (Currently Amended): A device according to claim 19, wherein the memory includes:

a ~~sequence~~ calibration unit configured to calibrate the signal transmitted by the transmission means, as a function of stride length and magnetic characteristics of the shoes,  
a stride length estimating algorithm,  
an algorithm to calibrate the signal transmitted by the transmission means as a function of the parameters input by a user, and  
an algorithm to estimate the stride speed.

Claim 21 (Currently Amended): A device according to claim 20, wherein the calibration unit is configured ~~sequence is designed~~ to determine a mathematical calibration law by a polynomial regression, and to determine a direct correspondence between the measured signal and the stride length, for given shoes and a given individual.

Claim 22 (Original): A device according to claim 20, wherein the stride length estimating algorithm uses a measurement of a variation in magnetic field resulting from movement of the magnetic mass.

Claim 23 (Previously Presented): A device according to claim 12, wherein said second shoe includes said at least one accelerometer and electronic means for processing said magnetic field signals and said acceleration signals.

Claim 24 (Previously Presented): A device according to claim 12, further comprising electronic processing means for determining instants of impact of said second shoe based on said acceleration signals outputted by said accelerometer.

Claim 25 (Previously Presented): A device according to claim 24, further comprising calibration means for performing a calibration in time of the dynamic measurement of the distance between shoes based on the instants of impact.

Claim 26 (Previously Presented): A device according to claim 25, further comprising means for determining, based on said calibration, instants at which said magnetic field signals are to be processed.

Claim 27 (Previously Presented): A device according to claim 25, wherein said calibration means perform said calibration based on said acceleration signals output by said accelerometer.

Claim 28 (Previously Presented): A device according to claim 24, wherein said electronic processing means calculate a time difference between consecutive impact times and calculate a stride based on said time difference.